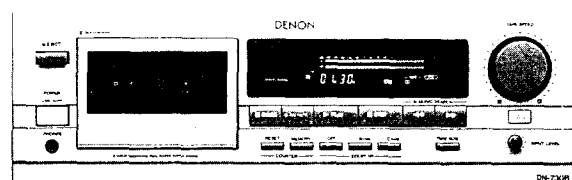


DENON

SERVICE MANUAL^B MODEL DN-730R STEREO CASSETTE TAPE DECK



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NIPPON COLUMBIA CO., LTD.

SPECIFICATIONS

Type	Vertical tape loading; 4-track 2-channel stereo cassette deck
Heads	Recording/playback head (amorphous) × 1 Erase head (Double-gap ferrite) × 1
Motors	Capstan (DC servo motor) × 1 Reel (DC motor) × 1
Tape Speed	4.8 cm/sec. (FIX)
Variable (PLAY)	Approx. ±12%
Fast Forward, Rewind Time	Approx. 110 sec. with a C-60 cassette
Recording Bias	Approx. 105 kHz
Overall S/N Ratio (at 3% THD level)	Dolby C NR on: more than 74 dB (CCIR/ARM)
Overall Frequency Response	25~19,000 Hz ±3 dB (at -20 dB, Metal tape)
Channel Separation	More than 40 dB (at 1 kHz)
Crosstalk	More than 65 dB (at 1 kHz)
Wow & Flutter	0.055% WRMS (JIS method), ±0.14% w. peak
Inputs	
Line	80 mV (-20 dBm) input level at maximum Input impedance: 50 kohm unbalanced
Outputs	
Line	775 mV (0 dB) output level at maximum (with 47 kohm load, recorded level of 200 pwb/mm)
Headphone	1.2 mW output level at maximum (optimum load impedance 8 ohm~1.2 kohm)
Power supply	Voltage is shown on rating label
Power Consumption	16 W
Dimensions	482 (W) × 134 (H) × 275 (D) mm
Weight	4.7 kg
Installation	19-inch rack mountable (3U)

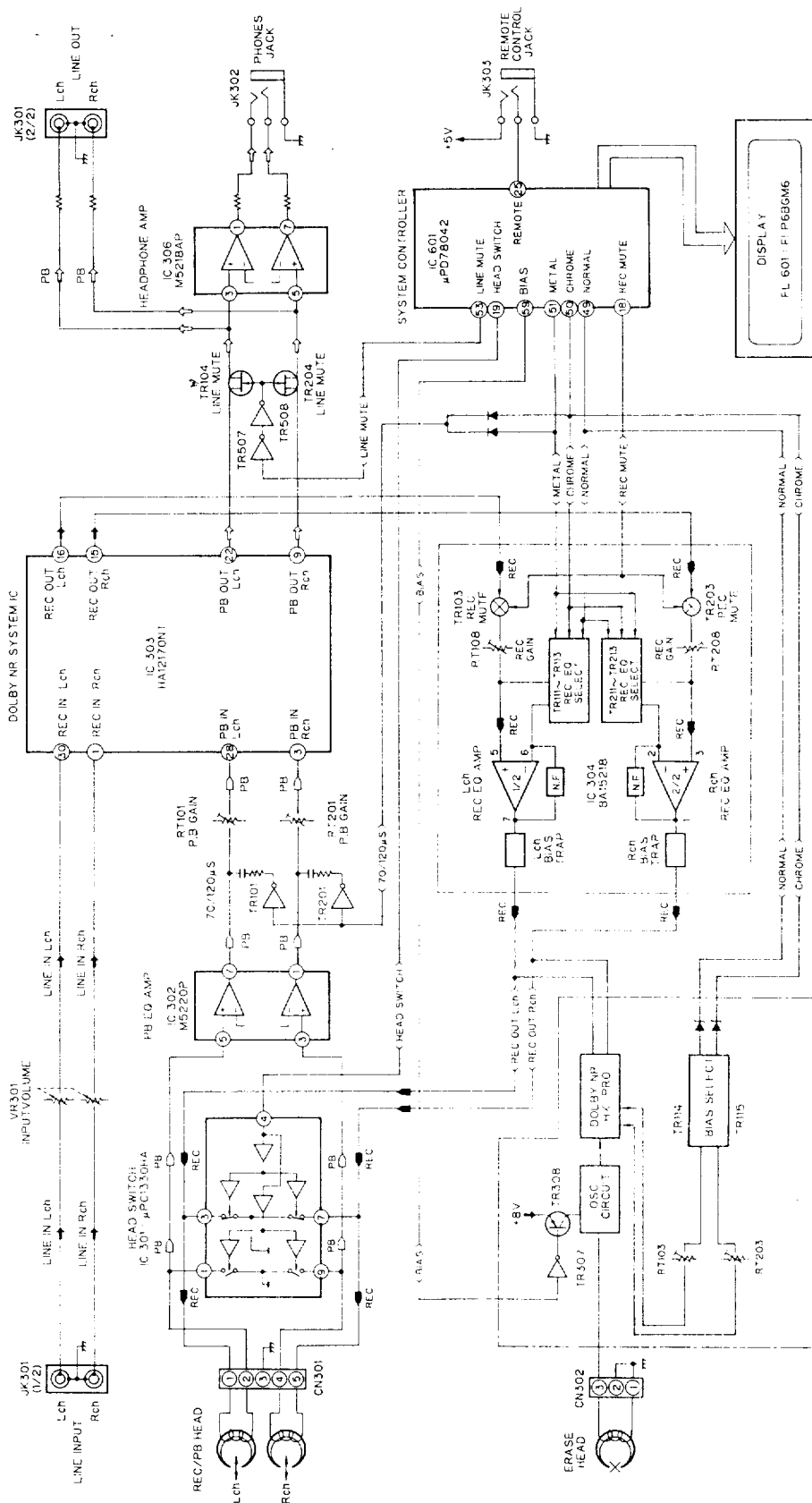
■ Above specifications and design styling are subject to change for improvement.

■ Dolby noise reduction and HX Pro headroom extension manufactured under licence from Dolby Laboratories Licensing Corporation. HX Pro originated by Band & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

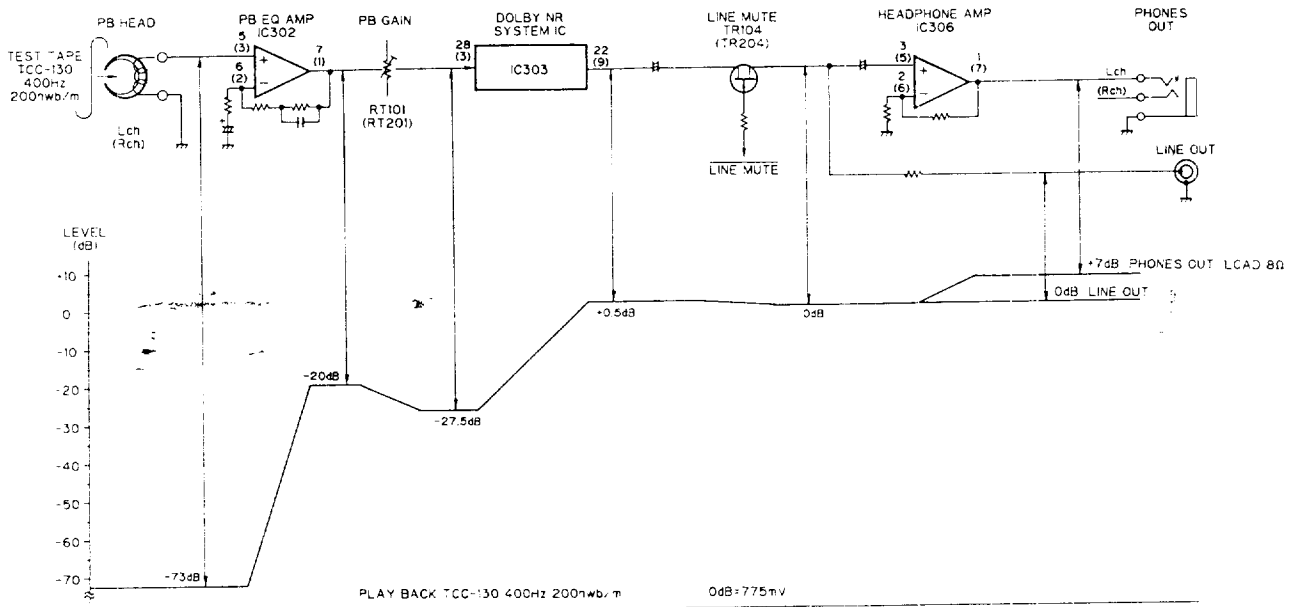
Best results will be obtained with use of DENON DX and HD Series cassette tapes.

BLOCK DIAGRAM

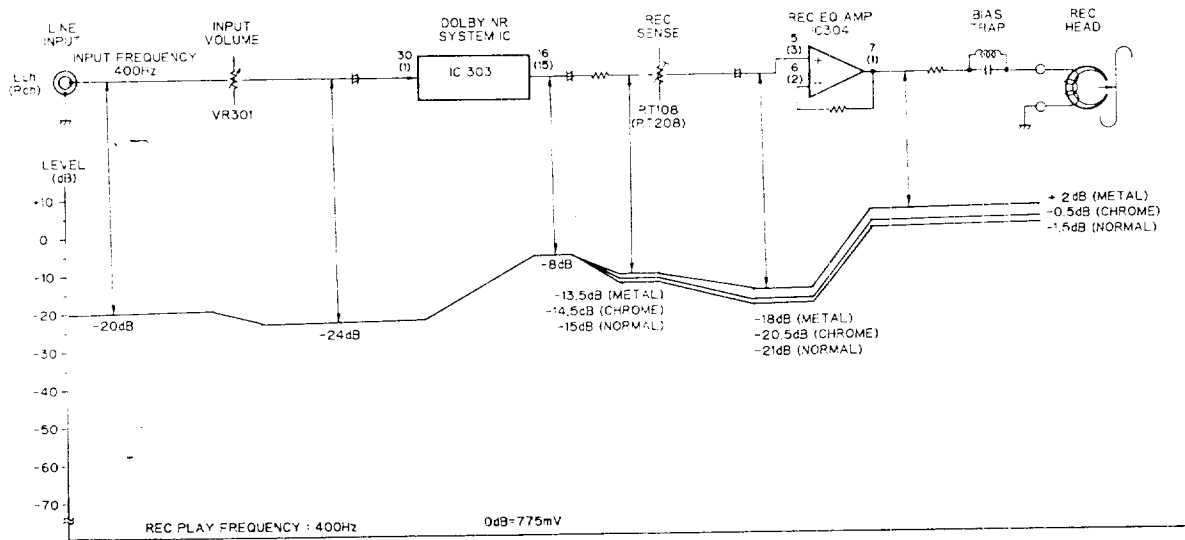


LEVEL DIAGRAM

PLAYBACK SYSTEM
TCC-130 DOLBY B-TYPE
400 Hz 200 nwb/m



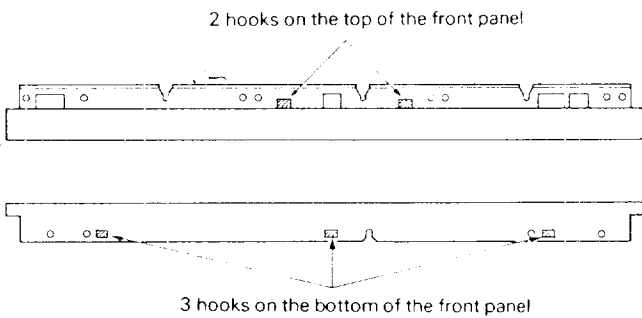
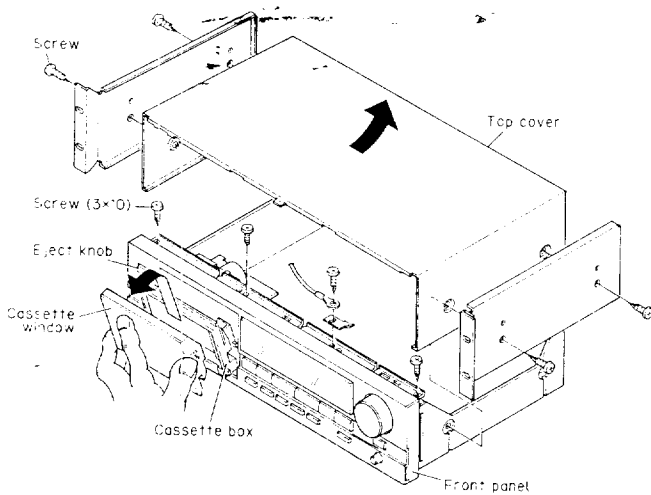
RECORDING SYSTEM
INPUT FREQUENCY
400 Hz



DISASSEMBLY INSTRUCTIONS

1. How to Remove the Front Panel

- (1) Remove the four screws (4 × 12 CBTS-P) in the side of the top cover. Move the top cover to the rear and rise it to remove it.
- (2) Press the eject knob, open the cassette box and remove the cassette window as shown in the figure.
Note: Handle the cassette window with care because it can be scratched easily.
- (3) Remove the three screws (3 × 10 CBTS-P) on top of the front panel, the two hooks on the top, the three hooks on the bottom and pull the unit forward to detach it.



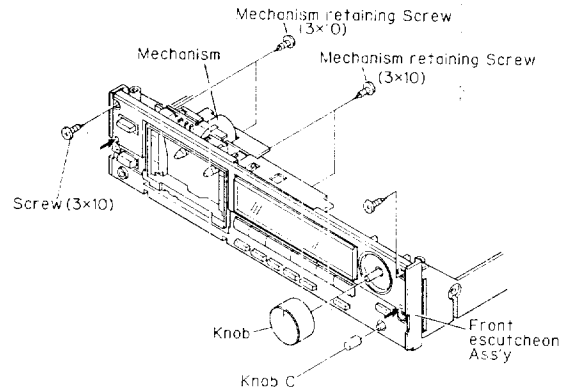
2. How to Remove the Front Escutcheon Ass'y

- (1) Remove the top cover and front panel. (Refer to Step 1.)
- (2) Remove the three retaining screws 3 × 10 CBTS-(P)-B holding the Front Escutcheon at the front.

- (3) Disconnect all lead connectors.

C Mechanism	{ W151 (7P) → CN151	} Audio circuit board
	{ Head wire → CN301	
	{ Head wire → CN302	
Meter circuit board	{ W131 (3P) → CN131	} Audio circuit board
	{ 23PFFC → CB121	

- (4) Remove Volume Knob and Volume Knob (C).
- (5) Remove the four retaining screws (2.6 × 6 CBTS(S)-Z) (3 × 10 CBTS(P)-B) holding the Mecha Bracket.
- (6) Remove the Hooks at the left and right of the front face of the Front Esc. Ass'y, and the two hooks on the bottom, Front Ass'y can be removed towards the front.



Hooks at left and right of Front Esc. Ass'y

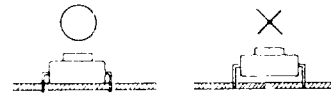
3. How to Remove the Mechanisms

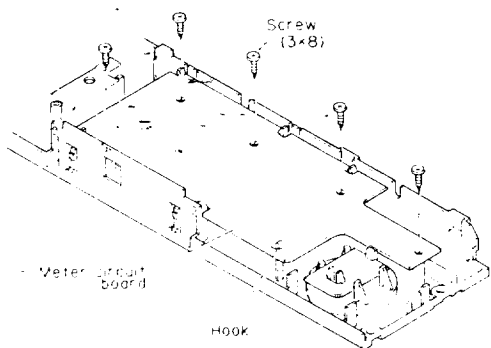
Remove the four Mechanism retaining screws 3 × 10 CBTS(P)-B and take out C Mechanism.

4. How to Remove the Meter Circuit Board

- (1) Remove the top cover and the front panel. (Refer to section 1.)
- (2) Remove the front esc. ass'y. (Refer to section 2.)
- (3) If you remove the five binding screws (3 × 8 CBTS-P tight) of the meter circuit board, and loosening the five hooks, the meter circuit board can be taken off.

Note: When replacing the tact switch, check to make sure that it is not floating above the circuit board. If it is floating, the switch will be in the on condition when the set is assembled.

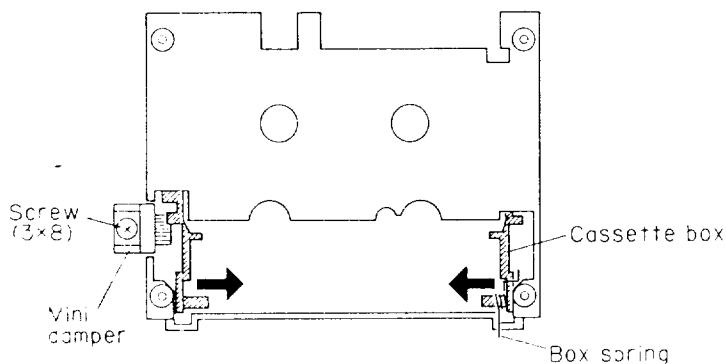




Meter Circuit Board

5. How to Remove the Cassette Door

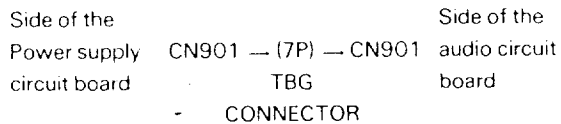
- (1) Remove the MINI DAMPER retaining screw 3 × 8 CBTS(P)-B and take out the MINI DAMPER.
- (2) Hold the legs of the CASSETTE BOX folded inwards and pull up to remove the CASSETTE BOX and BOX SPRING.



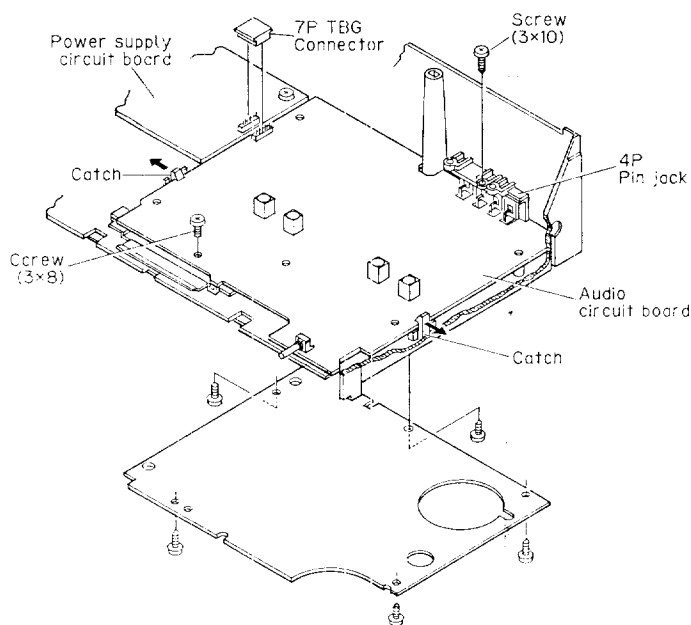
Front surface of Front Ass'y

6. How to Remove the Audio Circuit Board

- (1) Remove the top cover and the front panel. (Refer to section 1.)
- (2) Remove the front esc. ass'y. (Refer to section 2.)
- (3) Remove the connectors from the audio circuit board and power supply circuit board.



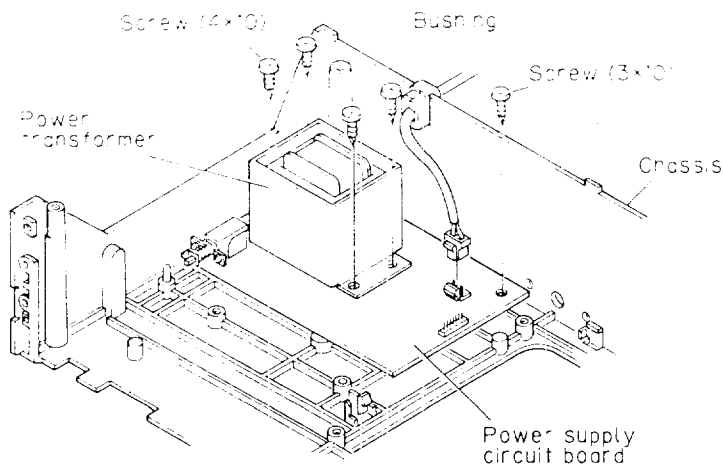
- (4) Remove the screw (3 × 10 CBTS · P tight) (3 × 8 CBTS · S tight) that is holding down the 4P pin jack and circuit board. By removing the two catches (left and right) of the chassis holding down the circuit board in the directions of the arrows shown below, the audio circuit board can be pulled forward.



- Note:**
- Almost all of the service repairs to the audio circuit board can be performed by removing the bottom cover on the rear side of the chassis. Only when it is unavoidable should you refer to the removal method mentioned above.
 - When reassembling, follow the procedures in the reverse order. However, if each of the various parts are not assembled properly in their respective position, the set cannot be assembled in some cases. Therefore, check the work of each step carefully when assembling.

7. How to Remove the Power Supply Circuit Board

- (1) Remove the top cover and the front panel. (Refer to section 1.)
- (2) Remove the bushing that is fixing the power supply cord from the chassis.
- (3) When the five screws (4 × 10 CBTS · P tight) (3 × 10 CBTS · P tight) that are holding the power transformer and circuit board are removed, the power supply circuit board can be removed by raising it.



ADJUSTING AND CHECKING THE MECHANISM SECTION

1. Replacing the Pinch Roller (36)

Before replacing the pinch roller, clean the tape contact surface of the pinch roller and the capstan shaft.

Most causes of poor tape transport can be traced to dirty pinch roller and capstan shaft.

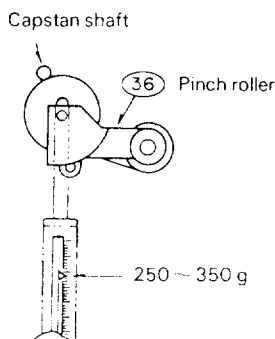
Remove the clips that press the pinch roller and pull the pinch roller forward to remove it.

After replacing, run a padless C-90 tape to check for tape curls at the tape guide section of the head.

2. Checking the Pressure Force of the Pinch Roller (36).

In the playback mode, hook a spring weight onto the bracket at the center of the pinch roller. After separating the pinch roller from the capstan shaft, allow the pinch roller to contact the capstan shaft again. Check to make sure the spring weight reads between 250 ~ 350 g when the pinch roller starts to rotate.

Replace the pinch roller (36) when it does not conform to the standard specification values.



3. Replacing the Record/Playback Head (14)

(1) How to remove the R/P HEAD.

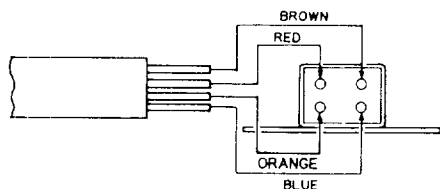
- 1) Remove securing screw (1) and azimuth adjusting screw (1) from the record/playback head.
- 2) Remove the soldered head wire and disassemble the mechanical unit to remove the record/playback head.

(2) How to assemble the R/P HEAD.

Reverse the above 1 procedures for removing the R/P HEAD.

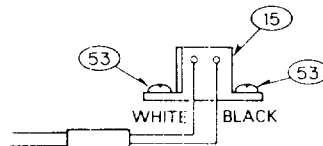
* Solder the HEAD WIRE according to the diagram.

mechanism (recording/playback head)



4. Replacing the ERASE HEAD (15)

- (1) Unscrew the erase head holding screws (53).
- (2) By unsoldering the HEAD W RES can be taken off the mechanism unit.
- (3) When the replacement is completed, secure the screws with the screw lock.



5. Checking the Take-up Torque

Load the cassette type torque meter (SONY TW2111).

Check to make sure that the average torque meter reading is within 30-70 g-cm during playback. If it is not within this range, check the voltage (approx. 4V) of the reel motor. If the voltage is low, the torque will be weak; if it is high, the torque will be strong.

6. Checking the FF and REW Torques

Load the cassette type torque meter (SONY TW2231). Check to make sure the torque meter indicates within 90 ~180 g-cm at the end of FF and REW.

7. Checking the Back Tension Torque During Record/Playback

Load the cassette type torque meter (SONY TW2111); check to make sure the torque meter reads between 2 ~6 g-cm during playback and that there is no unevenness.

If it is not within this range, replace the reel ass'y (5) or Washer.

8. Checking the FF and REW Times

Load a C-60 cassette tape (DENON GR-2/60); check to make sure the tape is fast forwarded or rewound within 110 seconds. If it is not within this range, check sections 5 and 6.

9. Checking the Existence of a Cassette Housing and the Operation of the Erase Prevention, Metal and Chrome Switch

Confirm that the sensor arm properly detecting the tape type detection holes on the cassette housing.

ADJUSTING AND CHECKING THE ELECTRICAL SECTION

Caution on adjusting

- (1) Before adjusting, clean the head surface, capstan and the pinch roller with a gauze or a cotton swab moistened with alcohol.
- (2) Demagnetize the R/P HEAD and the E. HEAD with a head eraser.
- (3) Completely demagnetize the adjustment screwdriver.
- (4) Unless instructed otherwise, set the various controls as follows.
 - INPUT volumemaximum
 - DOLBY NR switch OFF
 - TAPE SPEED volumeCenter position

1. Tape Transport Check

Load the transport check cassette. In the operational mode, illuminate the fixing guides of the R/P HEAD with a lamp and check to make sure the tape edge does not come in contact with the tape guide section.

The tape transport is the most important element in determining the performance of a cassette deck.

Avoid moving the various adjustment screws, nuts, etc., as much as possible. Refer to the pages on "Adjusting and Checking the Mechanism Section" when replacing or adjusting the R/P HEAD.

2. Adjusting the Azimuth

- (1) After completing the tape transport check, load the test tape (A-BEX TCC-153). **Fig. 2-1**
- (2) Playback the test tape; adjust the azimuth screw so that section A of the resurge wave form is maximum and section B is minimum. **Fig. 2-2**

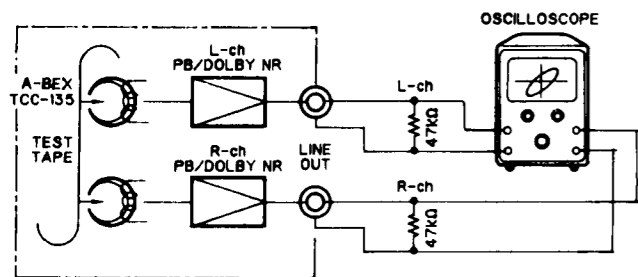


Fig. 2-1

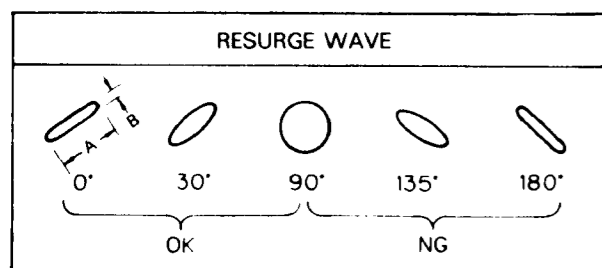


Fig. 2-2

3. Checking and Adjusting the Tape Speed

- (1) Connect the frequency counter to the LINE OUT terminal and load test tape (SONY TY-224).
- (2) Playback a test tape. At about halfway through the tape, where the tape transport is stable, adjust the adjustment points (RT305) on the P.W. BOARD (222 2778 ***) so that the frequency counter will have a reading within the range of 3,000 Hz \pm 6 Hz. **Fig. 3-1**

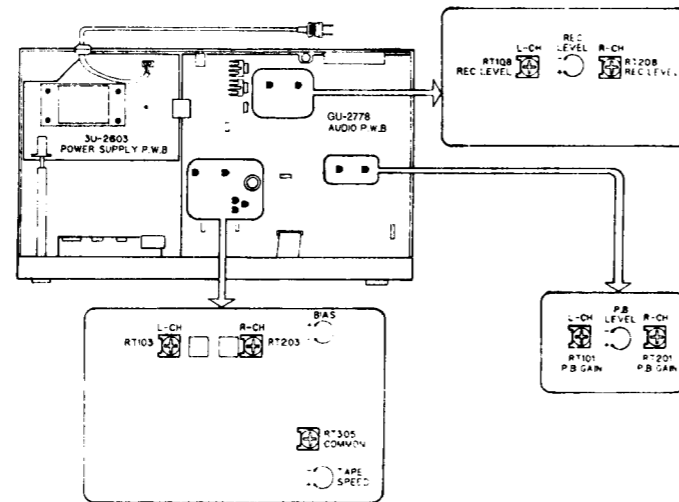
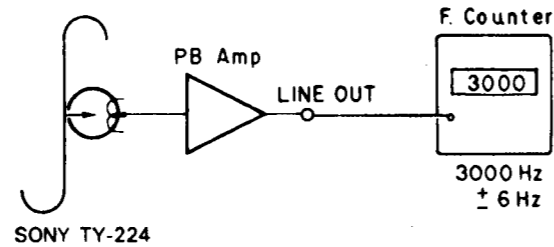


Fig. 3-1

4. Adjusting the Playback and Recording Section

Procedure	Item	Usage tape — input condition	Response	Mode	Adjustment location	Adjustment procedure
1	PLAYBACK GAIN	A-BEX TCC-130	Fig. 4-1	PLAYBACK	RT-101 (L) RT-201 (R)	Adjust the LINEOUT output to 775 mV (0 dBs).
2	P.B. Frequency	A-BEX TCC-162B, 262B	Fig. 4-1	PLAYBACK		Make sure the playback characteristics conform to Figure 4-2.
3	REC/P.B. Frequency	GR-2/60 1 kHz, -40 dB 10 kHz, -40 dB	Fig. 4-2	REC. PLAY ↓ PLAYBACK	RT-103 (L) RT-203 (R)	Record 1 kHz and 10 kHz alternately. Adjust each volume so the 10 kHz playback output is 0.5 dB in relation to the 1 kHz playback output.
4	REC GAIN	GR-2/60 1 kHz, -30 dB	Fig. 4-2	REC. PLAY ↓ PLAYBACK	RT-108 (L) RT-208 (R)	Adjust each volume to the playback output is the same as when the recording monitor is output.
5	REC/P.B. Frequency	GR-2/60 Dolby NR C	Fig. 4-3	REC. PLAY ↓ PLAYBACK		Make sure that the DOLBY NR C recording and playback characteristics conform to Figure 4-3.

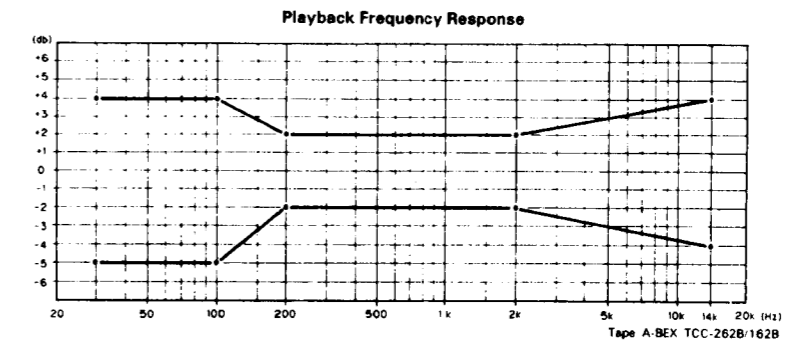


Fig. 4-1

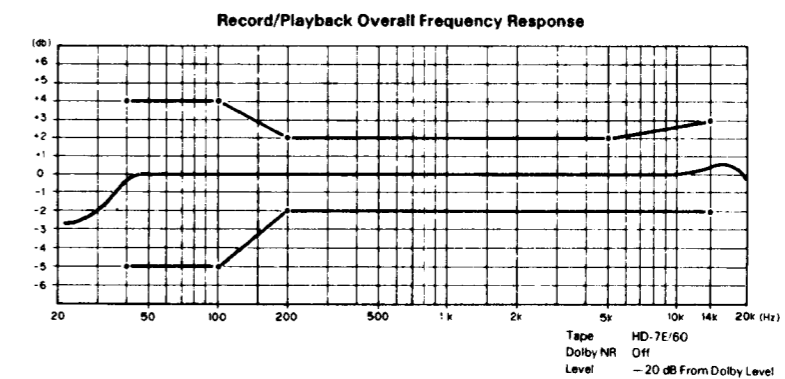


Fig. 4-2

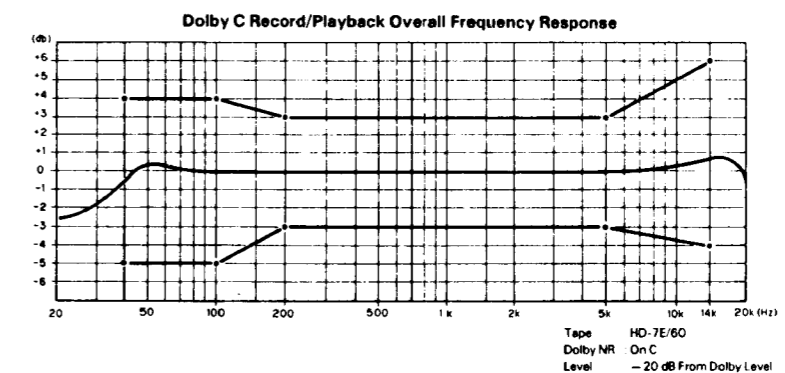


Fig. 4-3

EQUIPMENT FOR ADJUSTING AND CHECKING

- 1) MEASURING TAPE TYPE NAME, BRAND AND USES
- | TYPE NAME | BRAND | USES |
|----------------|-------|---|
| TW-2111A/2121A | SONY | Checking the Take-up Torque and Back Tension. |
| TY-2231 | SONY | Checking the FF and REW Torque. |
| GR-2/60 | DENON | Checking the FF and REW Times. |
| TCC-153 | A-BEX | Adjusting the Azimuth. |
| TY-224 | SONY | Checking and Adjusting the Tape Speed. |
| TCC-130 | A-BEX | Adjusting the Playback Level. |
| TCC-162/262B | A-BEX | Checking the Playback Frequency Response. |
| TCC-902 | A-BEX | Transport checking cassette tape. |
- 2) MEASURING INSTRUMENT
- Tension gauge
 - Audio signal generator
 - Variable resistance attenuator
 - Electronic voltmeter
 - Oscilloscope
 - Frequency counter
 - Adjustment screwdriver
 - Trap coil adjustment square stick

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR

Type	Shape and performance	Power	Resist- ance	Allowable error	Others
RD	Carbon	2B 1/8W	F : ±1%	P : Pulse-resistant type	
RC	Composition	2E 1/4W	G : ±2%	NL : Low noise type	
RS	Metal oxide film	2H 1/2W	J : ±5%	NB : Non-burning type	
RW	Winding	3A 1W	K : ±10%	FR : Fuse-resistor	
RN	Metal film	3D 2W	M : ±20%	F : Lead wire forming	
RK	Metal mixture	3F 3W			
		3H 5W			

* Resistance

1 8 2 ——— 1800 ohm = 1.8 kohm
 ↑ ↓
 Indicates number of zeros after effective number.
 ——— 2-digit effective number.

● Units: ohm

1 R 2 ——— 1.2 ohm
 ↑ ↓
 1-digit effective number.
 ——— 2-digit effective number, decimal point indicated by R.

● Units: ohm

* Capacity (electrolyte only)

2 2 2 ——— 2200μF
 ↑ ↓
 Indicates number of zeros after effective number.
 ——— 2-digit effective number.

● Units: μF.

2 R 2 ——— 2.2μF
 ↑ ↓
 1-digit effective number.
 ——— 2-digit effective number, decimal point indicated by R.

● Units: μF.

● Capacitors

Ex.: CE 04W 1H 2R2 M BP

Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others
CE	Aluminum foil electrolytic	0J 6.3V	F : ±1%	HS : High stability type	
CA	Aluminum solid electrolytic	1A 10V	G : ±2%	BP : Non-polar type	
CS	Tantalum electrolytic	1C 16V	J : ±5%	HR : Ripple-resistant type	
CQ	Film	1E 25V	K : ±10%	DL : For charge and discharge	
CK	Ceramic	1V 35V	M : ±20%	HF : For assuring high frequency	
CC	Ceramic	1H 50V	Z : +80%	U : UL part	
CP	Oil	2A 100V	-20%	C : CSA part	
CM	Mica	2B 125V	+100%	W : UL-CSA type	
CF	Metalized	2C 160V	-0%	F : Lead wire forming	
CH	Metalized	2D 200V	±0.25pF		
		2E 250V	±0.5pF		
		2H 500V	-		
		2J 630V	-		

* Capacity (except electrolyte)

2 2 2 ——— 2200μF = 0.0022μF
 ↑ ↓
 (More than 2) ——— Indicates number of zeros after effective number.
 ——— 2-digit effective number.

● Units: μF.

2 2 1 ——— 220PF
 ↑ ↓
 (0 or 1) ——— Indicates number of zeros after effective number.
 ——— 2-digit effective number.

● Units: PF.

● When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF GU-2778 AUDIO/METER UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC301	262 0590 001	IC UPC1330HA	
IC302	262 0861 006	IC UPC4570C	
IC303	263 0720 004	IC HA12170NT	
IC304	263 0565 007	IC BA15218	
IC306	263 0711 000	IC M5218AP	
IC307	263 0354 001	IC UPC1297CA	
IC309	263 0565 007	IC BA15218	
IC501	262 0447 009	IC BA6109U1	
IC601	222 2045 001	μ Computer UPD78043GF-100-3B9	
IC602	262 1711 909	IC X24C00S	
IC901	263 0810 008	IC NJM7808FA(S)	
IC902	263 0503 001	IC NJM7908FA	
IC903	263 0793 002	IC NJM7806FA(S)	
IC9C4	263 3432 907	IC NJM78L05AT	
IC910, 911	268 0072 003	IC Protector ICP-N10	
TR101	269 0074 907	Transistor DTA114TS(10K)	Built in Resistor
TR102	269 0102 905	Transistor DTC124EKT146	Built in Resistor
TR103	273 0245 900	Transistor 2SC2603E/F T	
TR104	275 0048 912	Transistor 2SK381(B)/(C)-T	
TR108, 109	269 0038 906	Transistor DTC114TKT96	Built in Resistor
TR111-113	269 0088 906	Transistor DTC114TKT96	Built in Resistor
TR114, 115	269 0102 905	Transistor DTC124EKT146	Built in Resistor
TR201	269 0074 907	Transistor DTA114TS(10K)	Built in Resistor
TR202	269 0102 905	Transistor DTC124EKT146	Built in Resistor
TR203	273 0245 900	Transistor 2SC2603E/F T	
TR204	275 0048 912	Transistor 2SK381(B)/(C)-T	
TR208, 209	269 0088 906	Transistor DTC114TKT96	Built in Resistor
TR211-213	269 0088 906	Transistor DTC114TKT96	Built in Resistor
TR307	269 0040 902	Transistor DTC144ES(47K-47K)	Built in Resistor
TR308	272 0025 907	Transistor 2SB562(C)TF	
TR309, 310	273 0245 900	Transistor 2SC2603E/F T	
TR370	269 0018 905	Transistor DTC143ES(4.7K-4.7K)	Built in Resistor
TR371	269 0022 904	Transistor DTA143ES(4.7K-4.7K)	Built in Resistor
TR507	269 0062 906	Transistor DTC124ES(22K-22K)	Built in Resistor
TR508	269 0016 907	Transistor DTA144WS(47K-22K)	Built in Resistor
TR515	269 0018 905	Transistor DTC143ES(4.7K-4.7K)	Built in Resistor
TR552, 553	269 0091 906	Transistor DTC143TKT96	Built in Resistor
TR554-556	274 0036 905	Transistor 2SD468(C)TF	
TR557	269 0015 908	Transistor DTC124XS(22K-47K)	Built in Resistor
TR558	269 0082 902	Transistor DTC114EKT96	Built in Resistor
TR559	263 0054 901	Transistor DTC144EKT96	Built in Resistor
TR560, 561	271 0183 927	Transistor 2SA933(R/S)T93	
TR601	269 0122 901	Transistor DTC144WKT146	Built in Resistor
TR904	272 0025 907	Transistor 2SB562(C)TF	
D155	276 0432 903	Diode 1SS270A TE	
D255	276 0432 903	Diode 1SS270A TE	
D315, 316	276 0432 903	Diode 1SS270A TE	
D320	276 0432 903	Diode 1SS270A TE	
D503	276 0553 905	Diode 1SR35-200A(T93X)	
D517, 518	276 0432 903	Diode 1SS270A TE	
D553	276 0553 905	Diode 1SR35-200A(T93X)	
D554	276 0432 903	Diode 1SS270A TE	
D601, 602	276 0432 903	Diode 1SS270A TE	
D901-904	276 0553 905	Diode 1SR35-200A(T93X)	
D910, 911	276 0553 905	Diode 1SR35-200A(T93X)	
D915, 916	276 0553 905	Diode 1SR35-200A(T93X)	
ZD304, 305	276 0468 906	Zener Diode HZS9B-1TD	
ZD410	276 0468 906	Zener Diode HZS9B-1TD	
ZD531	276 0468 906	Zener Diode HZS9B-1TD	
ZD551	276 0457 904	Zener Diode HZS4C-1TD	
ZD552	276 0465 909	Zener Diode HZS7B-1TD	
ZD907	276 0463 901	Zener Diode HZS6C-1TD	
ZD912	276 0482 908	Zener Diode HZS27-1TD	
ZD913	276 0472 905	Zener Diode HZS11C-1TD	

Ref. No.	Part No.	Part Name	Remarks
RESISTORS GROUP (not included Carbon Film ±5% 1/4 W type)			
VR101	211 6093 967	Adjust 47K ohm	V06PB473T
VR103	211 6093 970	Adjust 100K ohm	V06PB104T
VR108	211 6093 954	Adjust 22K ohm	V06PB223T
VR201	211 6093 967	Adjust 47K ohm	V06PB473T
VR203	211 6093 970	Adjust 100K ohm	V06PB104T
VR208	211 6093 954	Adjust 22K ohm	V06PB223T
VR301	211 0707 000	Variable 100K ohm (INPUT)	V09V25FA104
VR304	211 0835 008	Variable 5K ohm	V16V25FB502MG
VR305	211 6093 912	Adjust 4.7K ohm	V06PB472T
R101, 102	247 0010 987	Chip 27K ohm	RM73B--723JT
R103	247 0005 947	Chip 150 ohm	RM73B--151JT
R104	247 0010 974	Chip 24K ohm	RM73B--243JT
R105	247 0014 912	Chip 620K ohm	RM73B--624JT
R108	247 0014 967	Chip 1M ohm	RM73B--105JT
R111	247 0008 960	Chip 3.3K ohm	RM73B--332JT
R112	247 0009 943	Chip 6.8K ohm	RM73B--682JT
R118	247 0009 985	Chip 10K ohm	RM73B--103JT
R120	247 0010 929	Chip 15K ohm	RM73B--153JT
R132	247 0006 962	Chip 470 ohm	RM73B--471JT
R135	247 0007 945	Chip 1K ohm	RM73B--102JT
R140	247 0011 986	Chip 68K ohm	RM73B--683JT
R141	247 0011 944	Chip 47K ohm	RM73B--473JT
R142	247 0012 927	Chip 100K ohm	RM73B--104JT
R143	247 0010 929	Chip 15K ohm	RM73B--153JT
R144	247 0011 902	Chip 33K ohm	RM73B--333JT
R145	247 0005 905	Chip 100 ohm	RM73B--101JT
R150	247 0012 969	Chip 150K ohm	RM73B--154JT
R151	247 0010 929	Chip 15K ohm	RM73B--153JT
R152	241 2315 912	Carbon Film 10 ohm 1/4 W (Fusible)	RD14B2E100GFRST
R156	247 0005 905	Chip 100 ohm	RM73B--101JT
R160	247 0010 961	Chip 22K ohm	RM73B--223JT
R161	247 0012 927	Chip 100K ohm	RM73B--104JT
R162	247 0010 961	Chip 22K ohm	RM73B--223JT
R163	247 0006 988	Chip 560 ohm	RM73B--561JT
R164	247 0006 975	Chip 510 ohm	RM73B--511JT
R175	247 0014 967	Chip 1M ohm	RM73B--105JT
R177	247 0007 974	Chip 1.3K ohm	RM73B--132JT
R178	247 0009 914	Chip 5.1K ohm	RM73B--512JT
R180	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R181	247 0038 902	Chip 1.8K ohm	RM73B--182JT
R189	247 0017 906	Chip 10M ohm	RM73B--106KT
R199	247 0010 974	Chip 24K ohm	RM73B--243JT
R201, 202	247 0010 987	Chip 27K ohm	RM73B--273JT
R203	247 0005 947	Chip 150 ohm	RM73B--151JT
R204	247 0010 974	Chip 24K ohm	RM73B--243JT
R205	247 0014 912	Chip 620K ohm	RM73B--624JT
R208	247 0014 967	Chip 1M ohm	RM73B--105JT
R212	247 0009 943	Chip 6.8K ohm	RM73B--682JT
R218	247 0009 985	Chip 10K ohm	RM73B--103JT
R220	247 0010 929	Chip 15K ohm	RM73B--153JT
R229	247 0009 956	Chip 7.5K ohm	RM73B--752JT
R232	247 0006 962	Chip 470 ohm	RM73B--471JT
R235	247 0007 945	Chip 1K ohm	RM73B--102JT
R240	247 0011 986	Chip 68K ohm	RM73B--683JT
R241	247 0011 944	Chip 47K ohm	RM73B--473JT
R242	247 0012 927	Chip 100K ohm	RM73B--104JT
R243	247 0010 929	Chip 15K ohm	RM73B--153JT
R244	247 0011 902	Chip 33K ohm	RM73B--333JT
R245	247 0005 905	Chip 100 ohm	RM73B--101JT
R250	247 0012 969	Chip 150K ohm	RM73B--154JT
R251	247 0010 929	Chip 15K ohm	RM73B--153JT

PARTS LIST OF 3U-2603 POWER SUPPLY UNIT

Ref. No.	Part No.	Part Name	Remarks
XT501	399 0107 007	Ceramic Oscillator	CTS4.19MGW
FL601	393 8002 009	EL Tube	FIP68GM6
SW610, 612, 614, 616, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638,	212 5604 910	Tact Switch	
JK301	204 8261 003	4P Pin Jack	LINE IN, OUT
JK302	204 8264 026	Head phone Jack	HEAD PHONE
JK303	204 8416 007	Mini Jack	CD SYNCRO.
CN121	205 0580 003	23P FFC Connector Base	
CN122	205 0343 061	6P Connector Base (KR-PH)	
CN131	205 0343 032	3P Connector Base (KR-PH)	
CN141	205 0343 049	4P Connector Base (KR-PH)	
CN191	205 0711 075	7P TBG Connector Base	
CN301	205 0343 058	5P Connector Base (KR-PH)	
CN302	205 0343 032	3P Connector Base (KR-PH)	
W122	204 0265 078	6P KR-DA Connector Cord	
W131	203 4753 046	3P KR-DA Connector Cord	
W141	203 6374 025	4P KR-DA Connector Cord	
W151	204 2326 009	7P KR-DA Connector Cord	
W251	203 6236 066	4P KR-DA Connector Cord	
W252	203 8216 042	5P KR-DA Connector Cord	

Ref. No.	Part No.	Part Name	Remarks
SW901	212 0286 003	Power Switch	
CN191	205 0711 075	7P TBG Connector Base	
CN901	205 0581 001	2P VH Connector Base	For AC Corc
▲ C901	253 8014 702	Ceramic Capacitor 0.01 μF/400VAC	CK45E2GAC103MC
▲	445 0056 008	Cord Bush	
▲	206 2089 009	AC Cord With Connector	Europe
▲	206 2128 009	AC Cord With Connector	U.K.
▲	206 2110 004	AC Cord With Connector	U.S.A. Canada
▲	206 2088 000	AC Cord With Connector	Multi-Voltage
▲	233 5985 005	Power Transformer	Europe U.K.
▲	233 5758 009	Power Transformer	U.S.A. Canada
▲	233 5760 000	Power Transformer	Multi-Voltage
▲ F901	206 1031 045	Fuse (0.25)A	Multi-Voltage Only
▲	202 0022 008	Fuse Holder	Multi-Voltage Only
▲	212 4698 008	Voltage Selector (D)	Multi-Voltage Only

WARNING:

- Parts marked with ▲ and/or shading have special characteristics important to safety.

WARNING:

- Parts marked with ▲ and/or shading have special characteristics important to safety.
Be sure to use the specified parts for replacement.

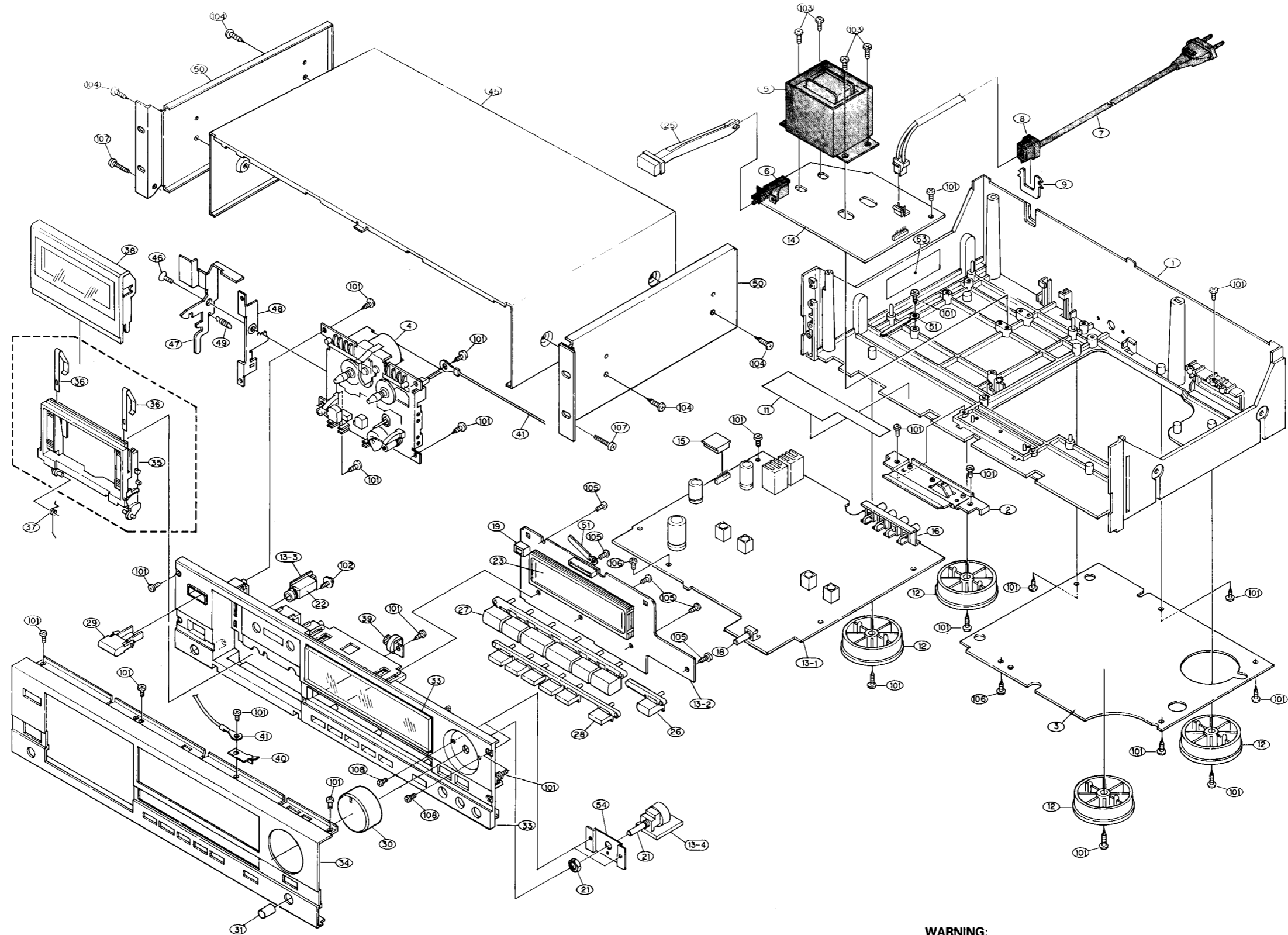
PARTS LIST OF EXPLODED VIEW


Ref. No.	Part No.	Part Name	Remarks
● 1	411 1000 652	CHASSIS	Europe, U.K.
●	411 1000 681	CHASSIS	U.S.A., Canada
●	411 1000 665	CHASSIS	Multi-Voltage
● 2	412 2523 115	EARTH BRACKET	
● 3	105 0787*107	BOTTOM COVER	
4	338 0168 009	CASSETTE MECHANISM	
▲ 5	233 5985 005	POWER TRANSFORMER	Europe, U.K.
▲	233 5758 009	POWER TRANSFORMER	U.S.A., Canada
▲	233 5760 000	POWER TRANSFORMER	Multi-Voltage
▲ 6	212 0286 003	POWER SWITCH	(SW001)
▲ 7	206 2089 106	AC CORD WITH CONNECTOR	Europe
▲	206 2128 009	AC CORD WITH CONNECTOR	U.K.
▲	206 2110 004	AC CORD WITH CONNECTOR	U.S.A., Canada
▲	206 2088 000	AC CORD WITH CONNECTOR	Multi-Voltage
▲ 8	445 0056 008	CORD BUSH	
● 9	412 2008 012	BUSHING PLATE	
● 11	414 0637 009	SHIELD LABEL	
12	104 0208 214	FOOT ASS'Y	
● 13	GU-2778	AUDIO/METER P.W.B. UNIT	
● 13-1	—	AUDIO P.W.B.	
● 13-2	—	METER P.W.B.	
● 13-3	—	H/P JACK P.W.B.	
● 13-4	—	VARI PITCH P.W.B.	
● 14	3U-2603	POWER TRANS. P.W.B. UNIT	
15	205 0712 074	7P TBG-S CONNECTOR	
16	204 8261 003	4P PIN JACK	(JK301)
18	211 0707 000	VARIABLE RESISTOR 100K	V0920V25FA104
19	412 3951 003	REFLECTOR	
21	211 0835 008	VARIABLE RESISTOR 5K	V1620V35FA502 (MG)
22	204 8264 026	HEAD PHONE JACK	
23	393 8002 009	FL TUBE (FIP6BGM6)	(FL601)
25	431 0310 046	POWER SWITCH LEVER ASS'Y	
26	113 1481 364	PUSH KNOB (B)	
27	113 1436 393	FUNCTION KEY	
28	113 1480 255	PUSH KNOB (A)	
29	113 1438 045	EJECT KNOB	
30	112 0515 173	VOLUME KNOB	
31	112 0727 042	VOLUME KNOB (C)	
● 32	103 1650 101	FRONT ESCUTCHEON ASS'Y (TK)	
● 33	143 0765 215	METER WINDOW	
● 34	144 2309 216	FRONT PANEL	
35	103 1511 318	CASSETTE BOX	
36	463 0655 009	CASSETTE SPRING	
37	463 0659 018	BOX SPRING (R)	
38	103 1660 007	CASSETTE WINDOW (A) ASS'Y	
39	421 9007 007	MINI DAMPER	
● 40	414 0595 015	EARTH PLATE	
● 41	203 2279 014	2C TERMINAL WIRE 3T	
● 45	102 0434 419	TOP COVER	
● 46	473 8047 001	SPECIAL SCREW	
● 47	412 3676 207	EJECT LEVER	
● 48	412 3628 006	LEVER STAY (B)	
● 49	463 8238 004	SPRING	
● 50	412 3677 015	MOUNT BRACKET	
● 51	445 8028 009	CORD HOLDER	
● 53	513 2150 001	WARNING SHEET	
● 54	412 3942 009	VOLUME BRACKET	
101	473 7508 017	3 × 10 CBTS(P)-B	
102	477 0262 006	SPECIAL SCREW	
103	473 7502 013	4 × 10 CBTS(P)-Z	
104	473 7509 058	4 × 12 CBTS(P)-B	
105	473 7500 044	3 × 8 CBTS(P)-B	
106	473 7002 018	3 × 8 CBTS(S)-Z	
107	473 7007 039	4 × 20 CBTS(S)-B	
108	471 3102 013	2 × 5 CBS-Z	

WARNING:

- Parts marked with ▲ and/or shading have special characteristics important to safety. Be sure to use the specified parts for replacement.
- Part indicated with the mark ● are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

EXPLODED VIEW



WARNING:
 Parts marked with this symbol   have critical characteristics.
 Use ONLY replacement parts recommended by the manufacturer.

EXPLODED VIEW OF CASSETTE MECHANISM

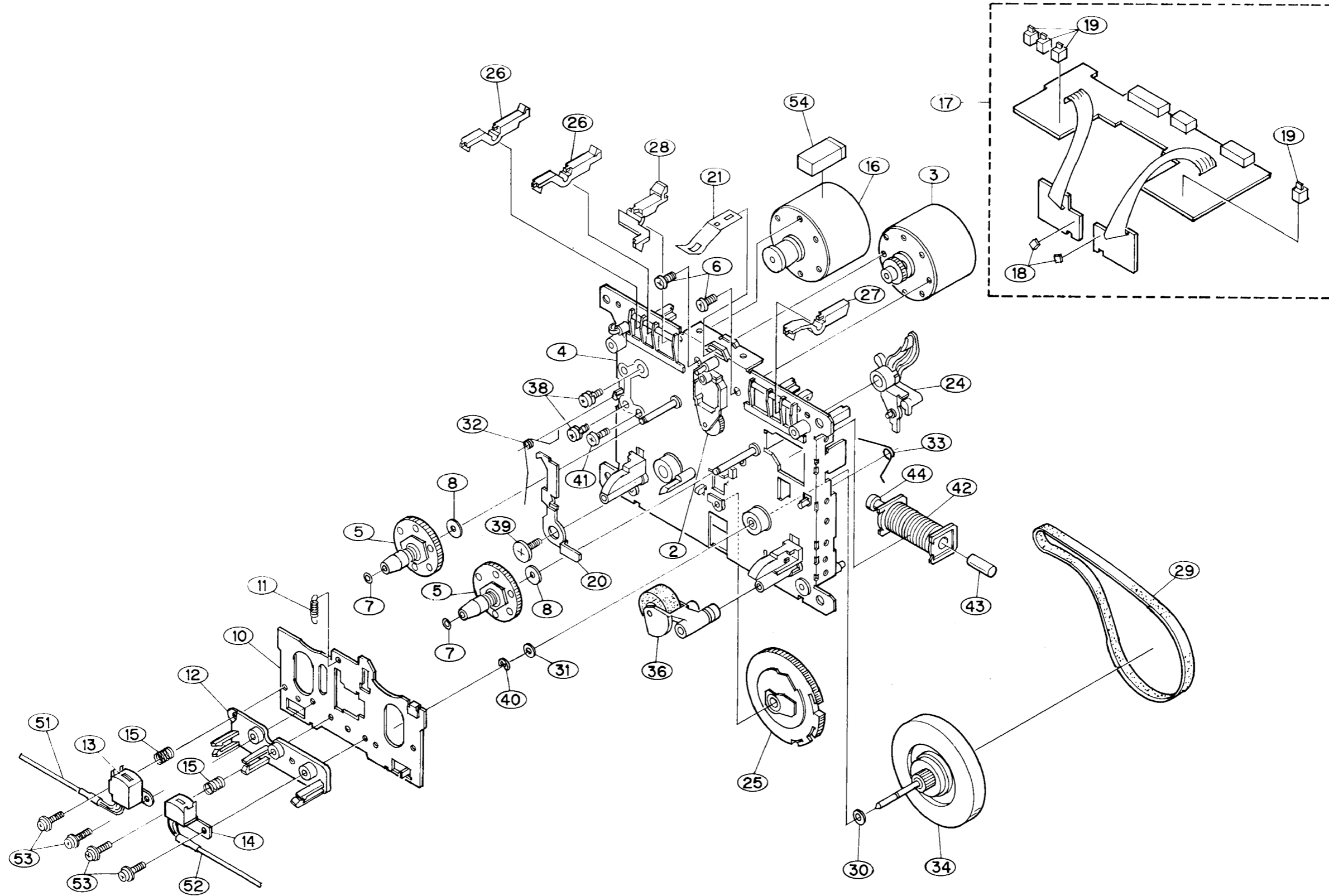
A

B

C

D

E




PARTS LIST OF CASSETTE MECHANISM EXPLODED VIEW

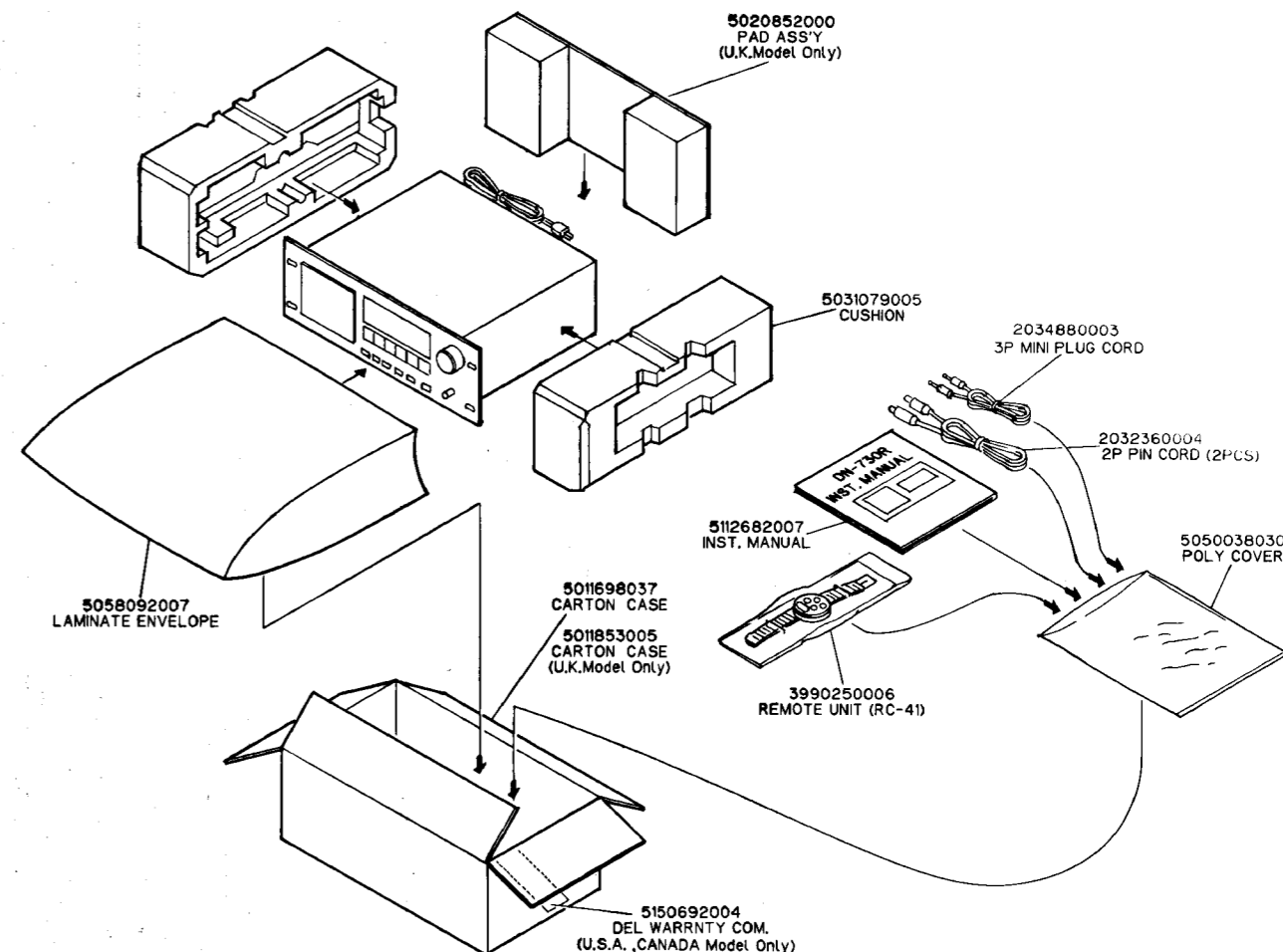
Ref. No.	Part No.	Part Name	Remarks
2	9DF 5170 49	IDLER	
3	9DF 5642 85	REEL MOTOR	
4	9DF 6121 51	CHASSIS BASE	
5	9DF 6230 37	REEL BASE	
6	9DF G156 11A	SCREW 2.6 × 6.4 ZN	
7	9DF J111 17	WASHER 1.7 × 0.25T	
8	9DU J12V 11	POLY WASHER 2.1 × 0.25T	
10	9DF C52E 47	HEAD BASE	
11	9DF K26N 14	HB SPRING	
12	9DF D45T 17	HEAD SPACER	
13	9DF U192 11	ERASE HEAD	
14	9DF U18K 12	R/P HEAD	
15	9DF K21U 11	SPRING	
16	9DF 5252 56	MAIN MOTOR	
17	9DF 5673 52	CONTROL P.W.B. Ass'y	
18	9DA W13G 00	REEL SENSOR (GP2S04B)	
19	9DU E16E 11	PUSH SWITCH	
20	9DF C39S 33	EJECT PROTECT ARM	
21	9DF C52H 12	CASSETTE SPRING	
24	9DF D45G 21	PLAY ARM	
25	9DF D45B 16	CAM GEAR (3R)	
26	9DF D44T 14	REC. SENSOR LEVER	
27	9DF D44Y 12	PACK SENSOR LEVER	
28	9DF D44V 12	METAL SENSOR LEVER	
29	9DF F17W 31	MAIN BELT	
30	9DF J111 30	POLY WASHER 2.6 × 0.25T	
31	9DF J111 14	POLY WASHER 2.6 × 0.5T	
32	9DF K28M 12	EJECT PROTECT SPRING	
33	9DF K28R 11	SLIDE SPRING	
34	9DF R22H 11	FLYWHEEL Ass'y	
36	9DF R20L 22	PINCH ROLLER Ass'y (R)	
38	9DF G114 14	SCREW 2.6 × 5 ZN	
39	9DF G15S 11A	SCREW WITH STEP (7.7)	
40	9DU G13U 15	E RING	
41	9DU G20B 11	WAVE SCREW 3 × 8 ZN	
42	9DF 7652 63	SOLENOID	
43	9DF L39H 12A	IRON CORE	
44	9DF L39K 12	PLUNGER	
51	9DW H63P 05	ERASE HEAD CORD	
52	9DW H55L 05A	R/P HEAD CORD	
53	9DF G137 18	2 × 9F LOCK SCREW	
54	9DF F17C 12	HOLDER CUSHION	

PARTS LIST OF PACKING & ACCESSORIES

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	505 8092 007	LAMINATE ENVELOPE	FOR SET	1
3	503 1079 005	CUSHION		2
4	501 1698 037	CARTON CASE		1
	501 1853 005	CARTON CASE	U.K.	1
5	505 0038 030	POLY COVER		1
6	511 2682 007	INST. MANUAL (5)		1
7	399 0250 006	REMOTE UNIT (RC-41)		1
8	203 2360 004	2P PIN CORD		2
9	203 4880 003	3P MINI PLUG CORD		1
10	515 0692 004	DEL WARRANTY COM	U.S.A. Only	1
11	502 0852 000	PAD ASS'Y	U.K. Only	1
12	202 0044 002	PLUG ADAPTER	(Multi-Voltage Only)	1

WARNING:
 ● Parts marked with  and/or shading have special characteristics important to safety.
 Be sure to use the specified parts for replacement.

PACKING & ACCESSORIES



P.W. BOARD OF GU-2778 AUDIO/METER UNIT

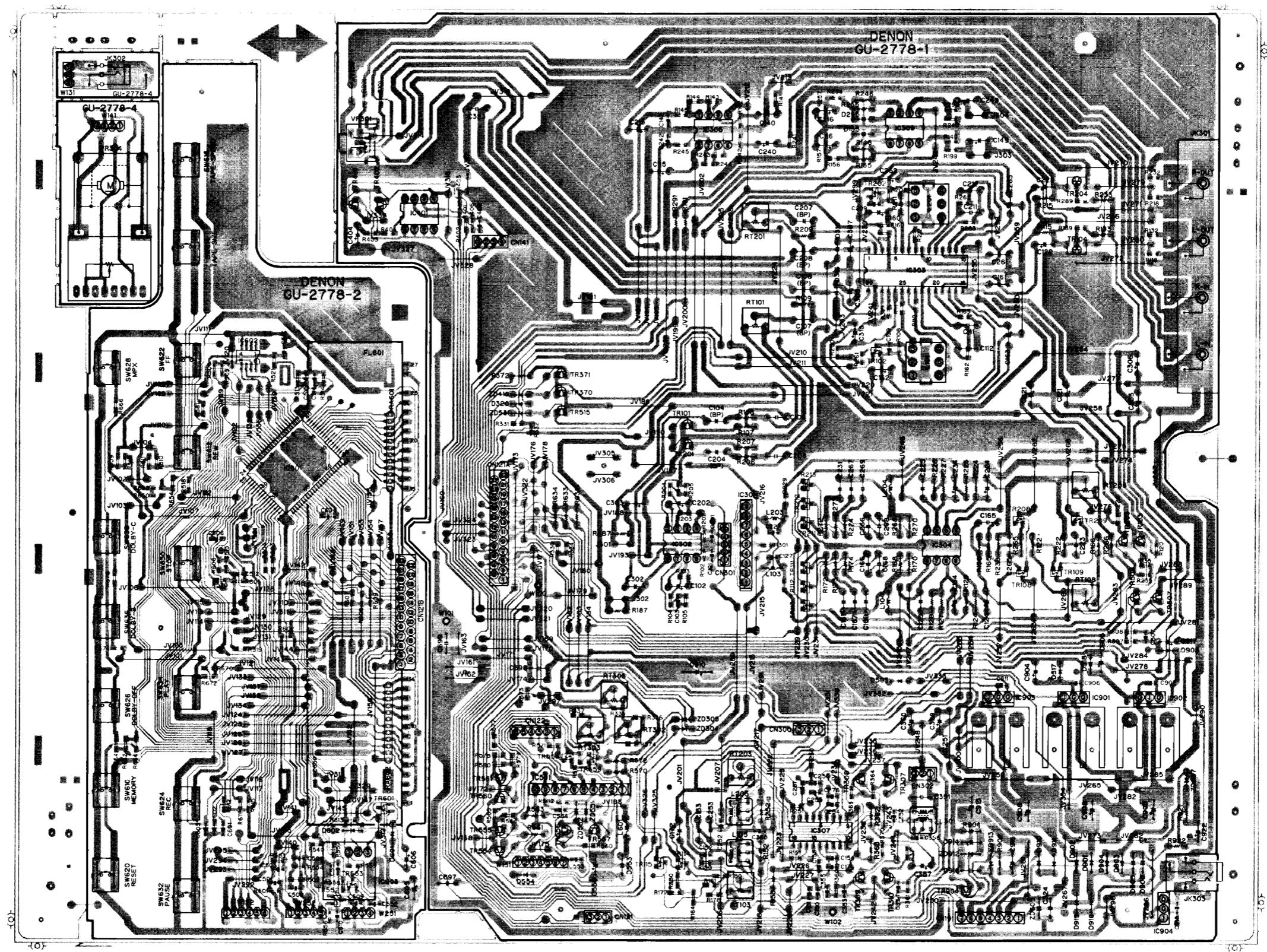
A

B

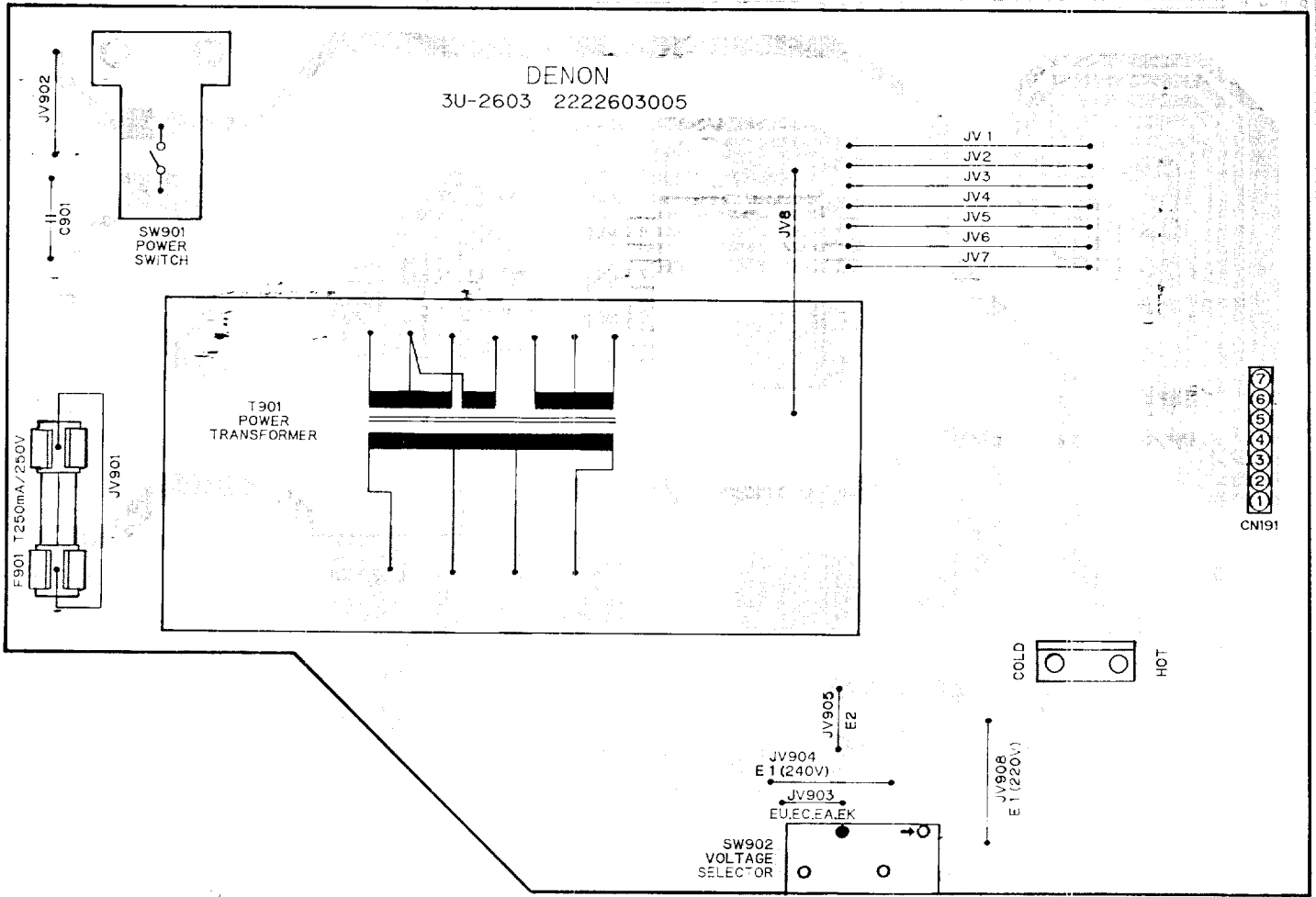
C

D

E



P.W. BOARD OF 3U-2603 POWER SUPPLY UNIT



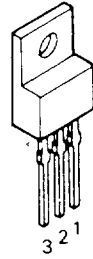
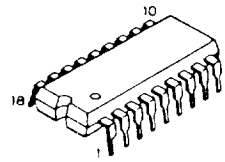
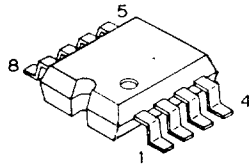
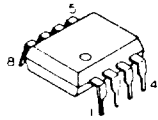
Remarks

1. The following table shows the power circuit parts used for the 3U-2603 board by area.
2. Parts used are marked O, parts not used —.

Areas	Ref.No.	Power Trans part No.	Voltage Selector	FUSE F901	JV901	JV903	JV904	JV905	JV908
Europe (E2)	2335985005	2335985005	—	—	○	—	—	○	—
U.K. (EK)			—	—	○	○	—	—	—
Multi-Voltage (E1)	2335760000	2335760000	○	○	—	○	—	○	
U.S.A. & Canada (E3)	2335758009	2335758009	—	—	○	○	—	—	

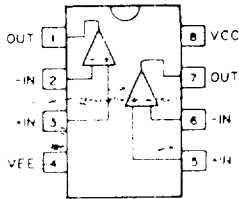
SEMICONDUCTORS

• IC

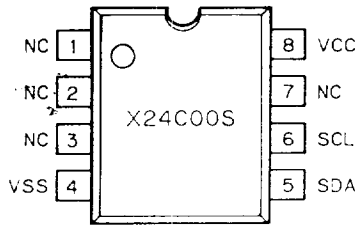


3 GND
2 INPUT
1 OUTPUT

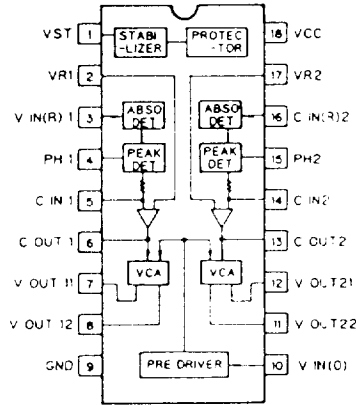
• NJM79C8



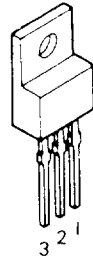
- M15218AP
- μ PC4570C
- TL4558



• X24C00S

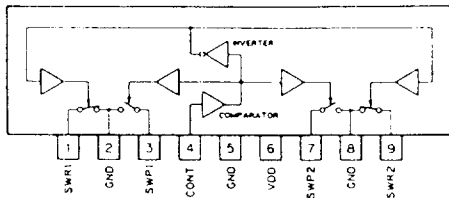
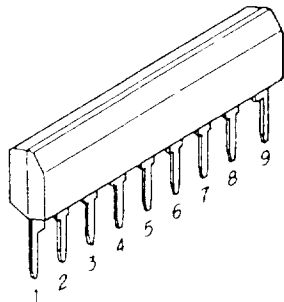


• μ PC1297CA

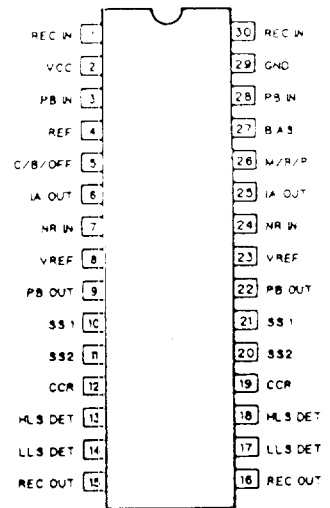
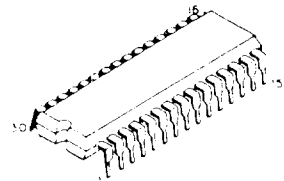


3 INPUT
2 GND
1 OUTPUT

• NJM7808
• NJM7806



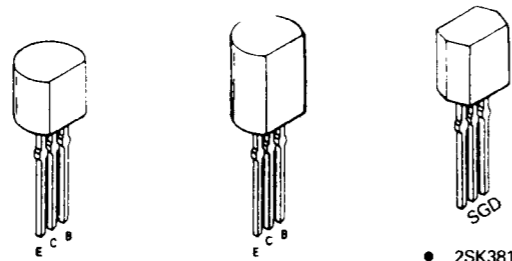
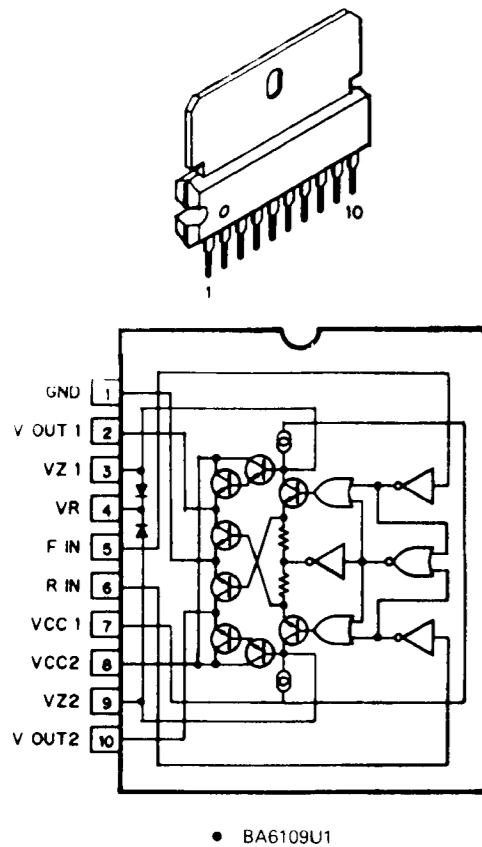
• μ PC1330HA



• HA12170NT

BUNDLE DIAGRAM

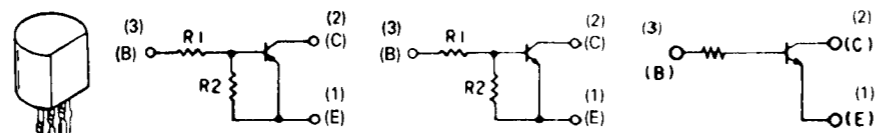
• **Transistors**



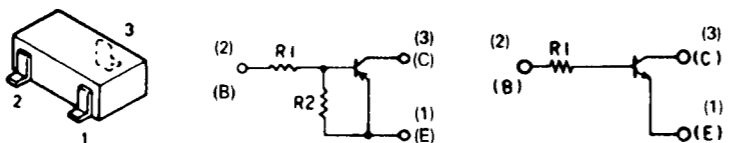
- 2SA933
- 2SC2603
- 2SC1740
- 2SB562
- 2SD468

S (Source)
G (Gate)
D (Drain)

• 2SK381

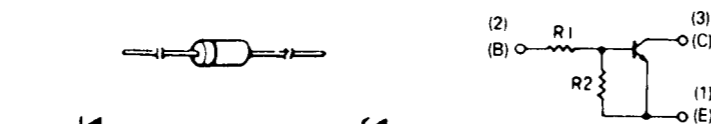


- DTA143ES
- DTA144WS
- DTC124ES
- DTC124XS
- DTC143ES
- DTC144ES
- DTC114TS

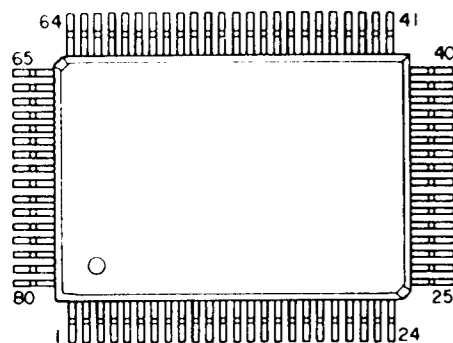


- DTA114EK
- DTA124EK
- DTC114TK
- DTC143TK

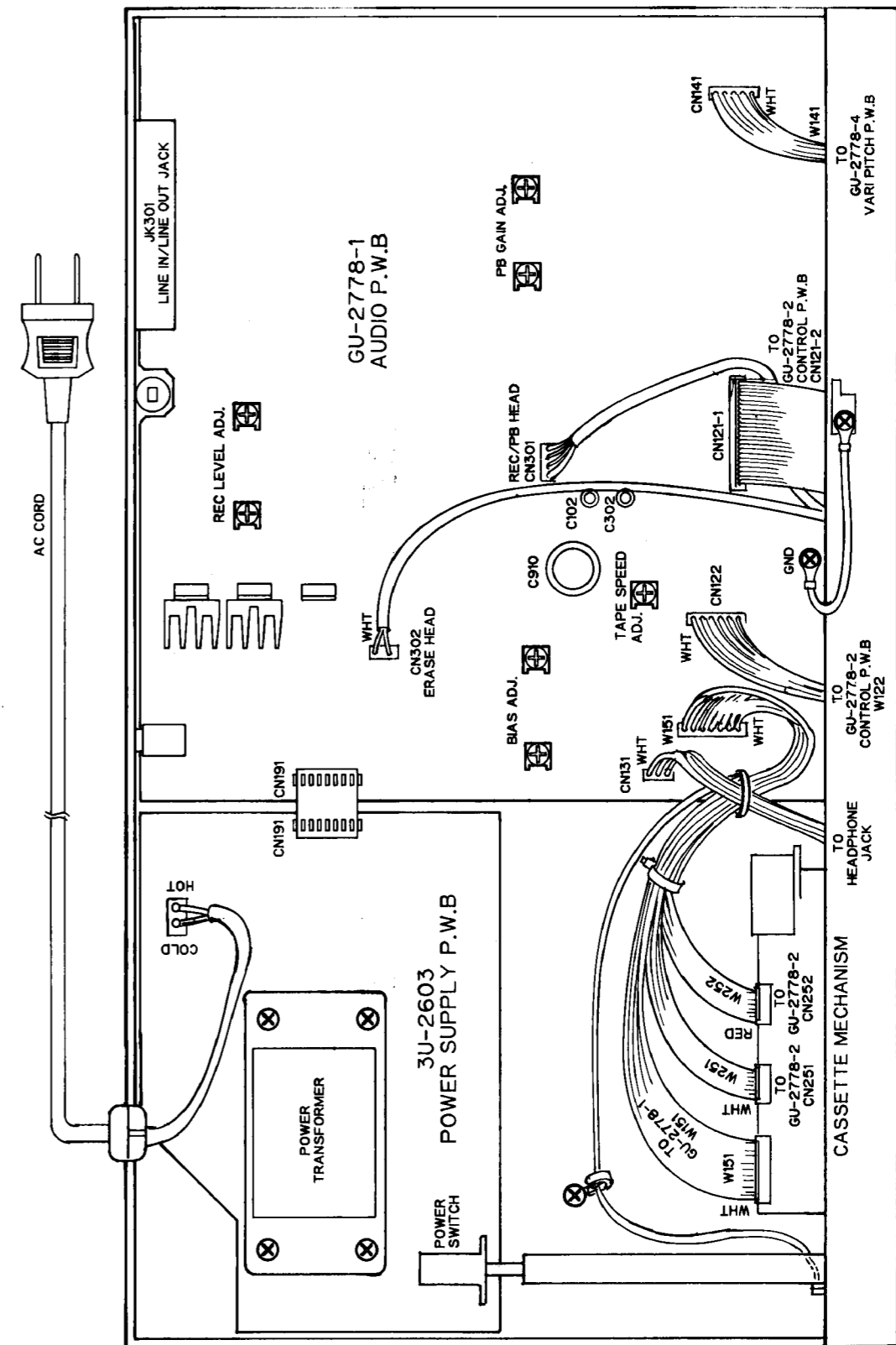
• **Diodes**



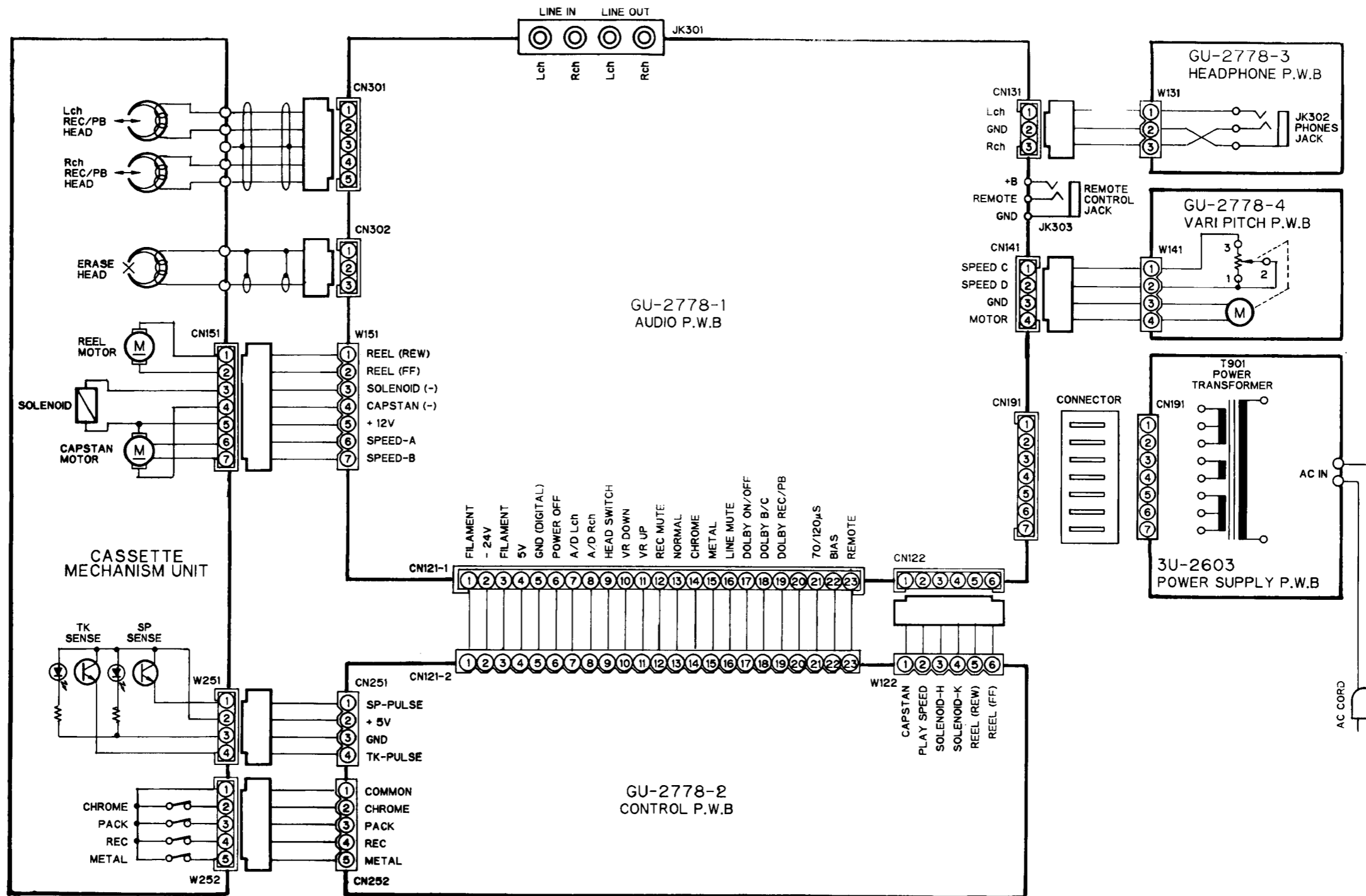
- ISS270A
- ISR35-200A
- HZS4C-1
- HZS6C-1
- HZS6B-3
- HZS6C-2
- HZS9B-1
- HZS11C-1
- HZS27-1
- HZS7B-2
- HZS9B-2
- DTC144WK
- DTC144EK
- DTC124EK



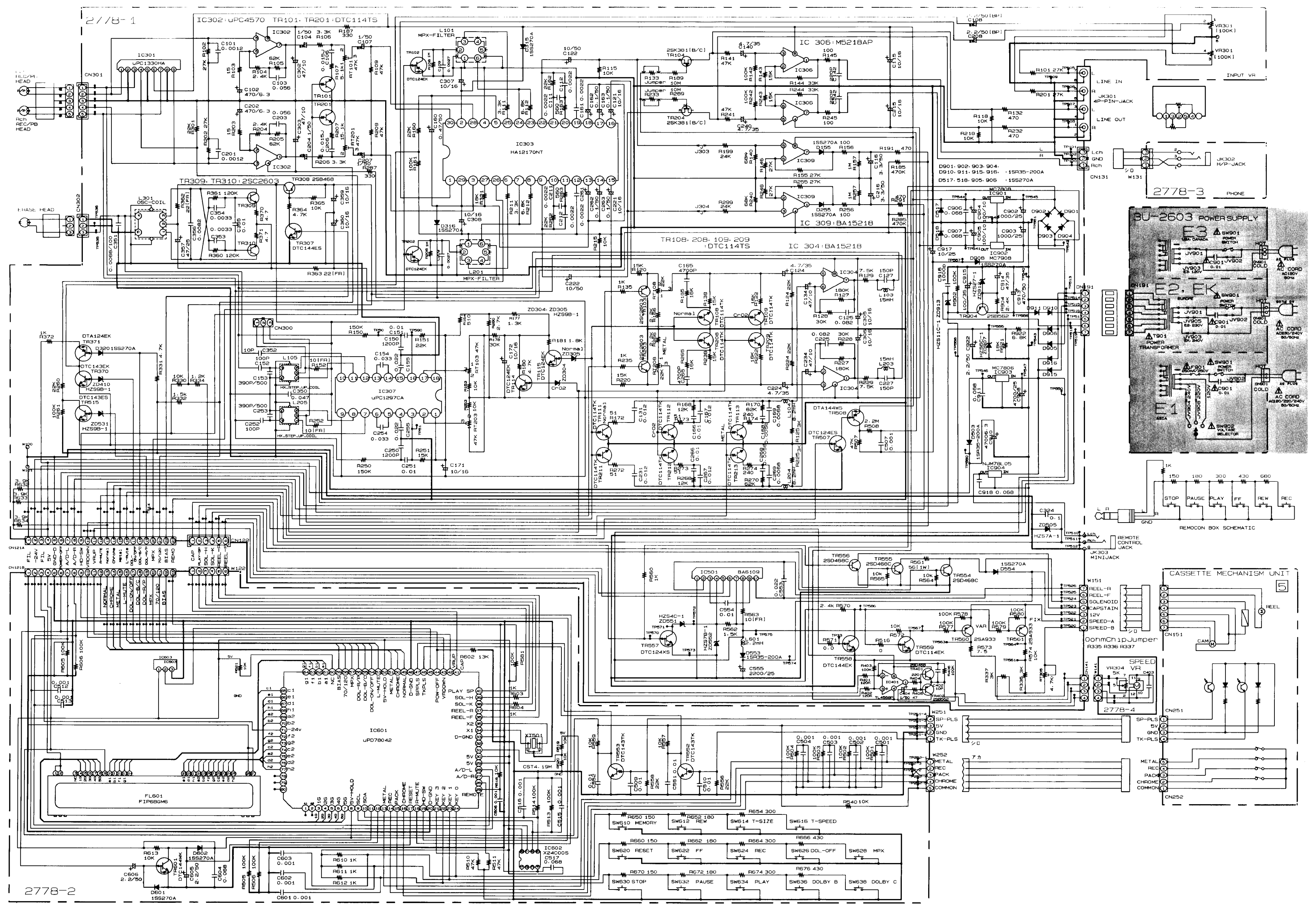
• UPD78043
(μ COM)



WIRING DIAGRAM



SCHEMATIC DIAGRAM



Note: • Resistance shall be 1/4 W unless otherwise specified and the unit is ohm.
 • The unit of capacitor is μ F, P is pF unless otherwise specified.
 • This circuit diagram shows the basic circuit. It is subject to change for the purpose of improvement.
 Parts marked with this symbol \blacktriangle have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

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